

spread and interfere with one another as before. And for that reason also they must become distincter and visible to far greater Numbers. But yet the violet being obliquest will be something more dilated in proportion to its extent than the other Colours, and so very apt to appear at the exterior verges of the white.

Afterwards, by a greater obliquity of the rays, the violet and blue become more sensibly dilated than the red and yellow, and so being further removed from the center of the Rings, the Colours must emerge out of the white in an order contrary to that which they had before, the violet and blue at the exterior limbs of each Ring, and the red and yellow at the interior. And the violet, by reason of the greatest obliquity of its rays, being in proportion most of all expanded, will soonest appear at the exterior limb of each white Ring, and become more conspicuous than the rest. And the several Series of Colours belonging to the several Rings, will, by their unfolding and spreading, begin again to interfere, and thereby render the Rings less distinct, and not visible to so great numbers.

If instead of the Prisms the Object-glasses be made use of, the Rings which they exhibit become not white and distinct by the obliquity of the Eye, by reason that the rays in their passage through that Air which intercedes the Glasses are very nearly parallel to those Lines in which they were first incident on the Glasses, and consequently the rays indued with several Colours are not inclined one more than another to that Air, as it happens in the Prisms.

There is yet another circumstance of these Experiments to be considered, and that is why the black and white Rings

Rings which when viewed at a distance appear distinct, should not only become confused by viewing them near at hand, but also yield a violet Colour at both the edges of every white Ring. And the reason is, that the rays which enter the Eye at several parts of the Pupil, have several obliquities to the Glasses, and those which are most oblique, if considered apart, would represent the Rings bigger than those which are the least oblique. Whence the breadth of the perimeter of every white Ring is expanded outwards by the obliquest rays, and inwards by the least oblique. And this expansion is so much the greater by how much the greater is the difference of the obliquity; that is, by how much the Pupil is wider, or the Eye nearer to the Glasses. And the breadth of the violet must be most expanded, because the rays apt to excite a sensation of that Colour are most oblique to a second, or further superficies of the thin'd Air at which they are reflected, and have also the greatest variation of obliquity, which makes that Colour soonest emerge out of the edges of the white. And as the breadth of every Ring is thus augmented, the dark intervals must be diminished, until the neighbouring Rings become continuous, and are blended, the exterior first, and then those nearer the Center, so that they can no longer be distinguish'd apart, but seem to constitute an even and uniform whiteness.

Among all the Observations there is none accompanied with so odd circumstances as the 24th. Of those the principal are, that in thin plates, which to the naked Eye seem of an even and uniform transparent

G g

white-